

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for identifying a Na^+ channel ~~blocker~~blockers, said method comprising the steps of:

disposing a cell comprising a Na^+ channel ~~blocker~~ into a well, the channel ~~blocker~~—demonstrating both a transient and a persistent current, said cell comprising a potassium (K) channel and a Na/K AtPase (Na^+ pump);

disposing a fluorescent dye into said well, said fluorescent dye being sensitive to change in cell membrane potential in order to enable optical measuring of cell membrane potential;

adding ~~the—a~~ Na^+ channel blocker, to be identified, into said well;

passing a stimulating current through said cell sufficient to generate an action potential before and after the addition of the Na^+ channel blocker; and

optically measuring a change in cell membrane potential before and after passage of a stimulating current in order to identify Na^+ channel blockers that preferentially block persistent over transient Na^+ channels.

2. (Original) The method according to claim 1 wherein a potassium conductance (g_K) of the cell is of a magnitude enabling an addition of potassium to the cell to cause a measurable depolarization and a conductance of a persistent component Na^+ channel ($g_{\text{Na}_{\text{persistent}}}$) sufficiently large to produce a voltage change when extracellular Na^+ is introduced into the well.

3. (Currently Amended) The method according to ~~claim 1~~ wherein the cell is engineered with K and Na^+ channels in order that relative conductance of the K channel and a portion of the Na^+ channel, that generates the persistent current are ~~very~~ similar.

4. (Original) The method according to claim 1 wherein the cell is engineered with K channels, voltage gated Na^+ channels, containing a portion with persistent current, and an ouabain-sensitive Na/K ATPase (Na^+ pump) and the method further comprises the step of adding ouabain to the well in order to block the Na^+ pump.

5. (Currently Amended) ~~A~~ screenApparatus for identifying a Na^+ channel blocker, said screen-apparatus comprising:

at least one cell comprising a Na^+ channel, the channel demonstrating both transient and a persistent current, said cell further comprising a potassium (K) channel and a Na/K ATPase (Na^+ pump);

at least one well for containing said cell;

a fluorescent dye sensitive to change in cell membrane potential in order to enable optical measurement of cell membrane potential; and

electrodes disposed in said well for passing a stimulating current through said cell sufficient to generate an action potential before and after the addition of the Na^+ channel blocker, to be identified, to said cell.